

ARCHEOLOGICAL INVESTIGATIONS IN STE. GENEVIEVE COUNTY, MISSOURI.

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HISTORICAL.

Bordering on the eastern shore of the Mississippi, and extending from a point about opposite the mouth of the Missouri on the north, to the Kaskaskia on the south, is a rich alluvial plain, often designated by the name "American Bottom." This is bounded by a line of bluffs which touches the river at the north and south. When first visited by the French this area was claimed and occupied by the Illinois Indians. At the north, some 20 miles below the mouth of the Missouri, were the villages of the Cahokia and Tamaroa. Later, during the year 1703,¹ the Kaskaskia moved southward from the Illinois River, and reared their wigwams near the mouth of the stream now bearing their name. These settlements were often mentioned by the early writers, but no account is to be found of villages on the opposite or right bank of the Mississippi between these points.

On the map of Pierre van der Aa (about 1720), two small streams are shown entering the Mississippi from the west, a short distance below the Missouri, and about equidistant between this river and the Saline. The more northerly of these is probably intended to represent the Meramec. A dot at the mouth of this stream, on the north side, bears the legend: "*Village des Illinois et des Caskoukia.*" Probably the Cahokia. On the eastern side of the Mississippi is indicated the "*Village des Tamaroa.*" On the d'Anville map of 1755, an "*Ancien Village Cahokias*" is placed on the right, or western shore of the Mississippi about midway between the mouth of the "R. de Maremac" on the south, and that of the "Petite R. des Cahokias," entering from the east, on the north. At the mouth of this small stream is the legend: "*Cahokias et Tamaroas le Fort et la Mission.*" The position of the "*Ancien Village Cahokias*" corresponds with

¹ Shea, John Gilmary, *The Catholic Church in Colonial Days*, New York, 1886, p. 544.

that of the mouth of the Rivière des Pères, a small stream flowing through the western part of St. Louis, and, at its junction with the Mississippi, forming the southern boundary of the city. Until a few years ago many small mounds were visible on the lowland at the mouth of the stream, objects of stone were numerous, and stone graves were met with on the near by hills; all indicative of an aboriginal settlement. Numerous groups of stone graves exist in the valley of the Meramec, and the site of an extensive village is located on the right bank of the stream a short distance above its mouth. About 4 miles below the Meramec, and one mile west of the town of Kimmswick, is a small saline, and near by a site bearing evidence of long occupancy. This I shall have occasion to mention more fully at another time.

By the close of the eighteenth century the Illinois tribes had become greatly reduced in numbers, and had lost their former power. In the year 1802 it was written: "At St. Genevieve, in the settlement among the whites, are about thirty Piorias, Kaskaskias, and Illinois, who seldom hunt, for fear of the other Indians. They are the remains of a nation, which fifty years ago, could bring into the field one thousand and two hundred warriors."¹

Below the town of Ste. Genevieve "there was formerly a village of Piorias, * * * but they abandoned it some time ago."² This was prior to the year 1810.

The Shawnee and Delaware village on Apple Creek, about 40 miles below Ste. Genevieve, dates from the year 1793. Bands of the former tribe evidently traversed the surrounding country. About 1 mile southwest of Ste. Genevieve is a large spring, known as Vallé Spring. The water issues from beneath a mass of limestone and is of sufficient quantity to form a stream 10 feet or more in width. Brackenridge visited this spot about the year 1810 and "found a party of about sixty Shawanese warriors encamped near it; after some conversation with the chief, a good old man, and of a remarkable fine figure; why said he, does not some white man build a house and settle himself near this place? but, continued the old chief, seemingly recollecting himself, perhaps some Manitou (spirit) resides here, and will not permit it!"³ And as yet no house has been erected near the spring: the site has remained unoccupied.

As has been said, no references occur in the works of early writers to villages on the western bank of the Mississippi, between the Missouri on the north and the Saline on the south. It is evident, however, that at some early day the Illinois had occupied certain sites. Therefore it is quite probable that the signs of former occu-

¹ Davis, John, *Travels in Louisiana and the Floridas*, in the year 1802, New York, 1806, p. 99.

² Brackenridge, H. M., *Views of Louisiana*, Pittsburg, 1814, p. 125.

³ Brackenridge, *Idem.*, p. 126.

pancy in the vicinity of the Meramec, and the stone graves, the village site, and the traces of work in the area adjacent to the salt spring near the mouth of the Saline, should be attributed to the Illinois tribes, whose principal villages were on the eastern side of the Mississippi.

Père de Charlevoix arrived at Kaskaskia October 19, 1721. While there he wrote of the surrounding country, of the native tribes, and of the French settlement and Mission, but he failed to mention the existence of the salt spring a few miles above, on the opposite side of the Mississippi. Nevertheless, there is little doubt of its having been the source whence the early French colonists secured their supply of salt, as it was at a later day, when it was written: "The salines just below St. Genevieve are productive. The inhabitants on both sides of the Mississippi derive most of their supplies from them; and no small proportion of the salt is boated up the Ohio. The salines on the Merimak are also valuable: They supply in part the settlers on the east side of the Mississippi."¹

On the map of Pierre van der Aa, dating from the early part of the eighteenth century, the Saline Creek is correctly placed and bears the name "la Saline." On the Bellin map of 1744 the "R à la Saline" is indicated, and on the north side, near its mouth, is "la Saline." The area is more clearly and accurately delineated on the d'Anville map of 1755. Here the name "Ste. Genevieve" is applied to the settlement on the Mississippi north of the "Saline," which is accurately placed a short distance from the left bank of the "R. à la Saline." The Ross map of 1765, a section of which is reproduced in plate 50, indicates the positions of the French and Indian villages. Ste. Genevieve here bears the name of "Misere," and Saline Creek that of "Salt pans River." Near the mouth of the river is shown the position of "the Salt pans." It is quite probable that about this time the making of salt by evaporating the waters of the spring became a recognized industry, and this was evidently one of the places Bossu had in mind when he wrote: "*At the Illinois, the 15th of May 1753* * * * The *Illinois* country is one of the finest in the world; it supplies all the lower parts of *Louisiana* with flower. Its commerce consists in furs, lead and salt. There are many salt springs, that attract the wild oxen, and the roe-bucks."² A short time after the peace of 1763 a British officer visited the settlements of Upper Louisiana and left this brief reference to the saline: "Sainte Genevieve, or Misere. The first settlers of this village removed about twenty-eight years ago from Cascasquias. * * * The situation of the village is very convenient, being within one league of the salt

¹ Stoddard, Major Amos, Sketches * * * of Louisiana, Philadelphia, 1812, p. 401.

² Bossu, Travels through that part of North America formerly called Louisiana (Eng. trans.), London, 1771, vol. 1, p. 127.

spring, which is for the general use of the French subjects, and several persons belonging to this village have works here, and make great quantities of salt for the supply of the Indians, hunters, and the other settlements." ¹

Some years later "A grant of a tract of land, one league square, was here made by the Spanish government, in favor of a Frenchman named Pegreau, the founder of the deserted town called New Bourbon. The tract included a valuable brine spring near the mouth of the [Saline] creek. The proprietor built a house near the bank of the Mississippi, where he resided for some time, and carried on a manufacture of salt." ² Soon after the transfer of Louisiana to the United States the tract was acquired by others. Salt is said to have been made here in large quantities as late as 1835, and even at this late day several of the old iron kettles are to be found near the spring, and many fragments lie scattered about on the surface.

THE SALT SPRING.

As has been shown in the preceding section, the area immediately surrounding the salt spring was occupied by the French colonists soon after the establishment of the European settlement at Kaskaskia, and the whites continued making salt at the spring until about the year 1835. As a result of these activities, covering a period of more than a century, a vast quantity of wood ashes and charred wood accumulated here, covering the traces of an earlier occupancy of the site by the Indians. A sketch of this area is reproduced in figure 2, being a more detailed plan of *A* on the map (fig. 1). The mass of ashes attains its greatest thickness just north of the spring, and at *B*, figure 2, an excavation was made which reached the undisturbed clay at a depth of about 6 feet. This was near the edge of the ash bank, which, a few feet west, was considerably higher than at this point.

Between the mass of ashes and the small branch, the stippled area on the plan, the ground is so impregnated with salt that it is barren of vegetation. The ground is saturated, and an excavation made at any point over the surface of this area will soon be filled with salt water. It is said that during the time the salt water was utilized by the whites, a large excavation made around the spring served as a reservoir in which the water, later to be evaporated by the salt makers, was collected.

Scattered over the surface of this area are many fragments of large pottery vessels of Indian make, and a great quantity of sandstone. The pieces of sandstone range from 1 inch to a foot or more in diameter, and practically all have been turned red by the action of fire.

¹ Pittman, Capt. Philip, *The present state of the European Settlements on the Mississippi*, London, 1770, p. 50.

² James, Edwin, *Account of an Expedition, under the Command of Major Stephen H. Long*, Philadelphia, 1823, vol. 1, p. 48.

These we may assume to have been the pieces of stone which were heated and placed in the large earthenware vessel containing the water from the spring, the primitive method followed by the Indian in evaporating the water to secure the salt. No other kind of stone found in this region would have served the purpose. Limestone and granite

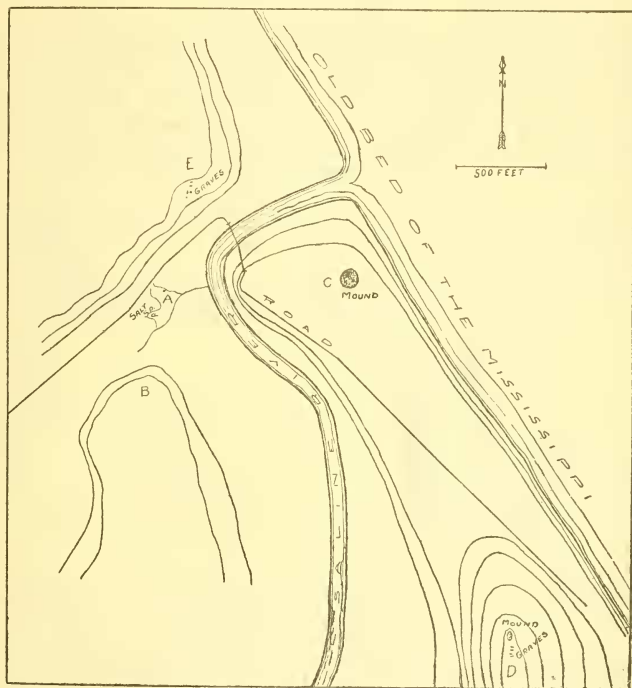


FIG. 1.—MAP SHOWING THE POSITION OF THE SALT SPRING A AND THE MOUTH OF THE SALINE.

would have fractured if placed in fire, and the pieces of sandstone met with on the site had been carried from a point several miles away. Sandstone had been similarly used at the site near Kimmswick, and there two pieces were discovered resting on the bottom of a large "salt pan."¹

¹ Kimmswick is a small town on the Mississippi, in Jefferson County, Missouri, about 4 miles below the mouth of the Meramec River. In the valley northwest of the town are many springs. About $1\frac{1}{2}$ miles distant, near a spring, and rising above the left bank of a small stream, known as Rock Creek, was a level tract of several acres. This area had been occupied for a long period by the Indians. During the autumn of 1902 I examined this site in the interest of the department of anthropology of the University of California and the Peabody Museum, Harvard University. The work was described in two parts: *Primitive Salt Making in the Mississippi Valley*, I. *Man*, 13, London, 1907. II. *Man*, 35, London, 1908.

Many references will be found on the following pages to the Kimmswick site as it possessed many features similar to those encountered in the vicinity of the mouth of the Saline.

It is quite evident that much of the fragmentary pottery and sandstone now exposed on the surface was thrown out of the excavation when the reservoir was formed. And since that time, aided by the lack of vegetation, the rain has washed away the greater part of the earth and ashes, allowing the masses of stone and earthenware to remain uncovered.

A profile and section of the space extending from *A* to *B* on figure 2, is shown in figure 3. As stated above, the excavation at *B* reached the undisturbed clay at a depth of about 6 feet. Resting upon the clay were several pieces of "cloth marked" pottery, small fragments of large vessels. The excavation at *A* was carried down several feet below the surface of undisturbed clay. Resting upon the clay was a mass of broken pottery nearly 18 inches in thickness. The frag-

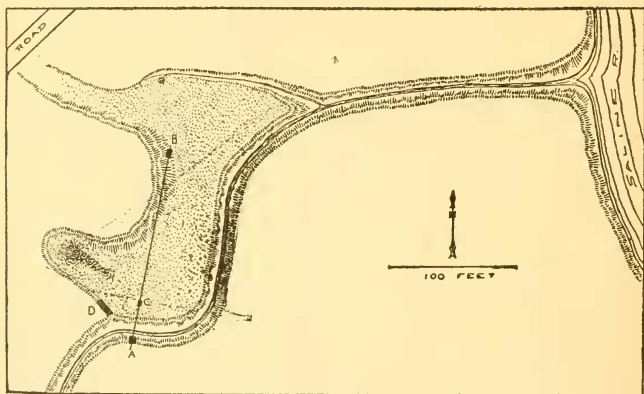


FIG. 2.—THE SALT SPRING *A* ON FIG. 1. THE STIPPLED AREA REPRESENTS THE GROUND IMPREGNATED WITH SALT AND BARREN OF VEGETATION.

ments were, for the most part, in a horizontal position, and rested one upon another in such a manner as to form practically a solid stratum. Above this was an accumulation of ashes, charcoal, and a few animal bones, many of the latter having been cracked, probably for the extraction of the marrow. An excavation *C* (fig. 2), on the line between *A* and *B*, reached the undisturbed clay at a depth of 2 feet 6 inches. The upper 6 inches consisted of soil, broken sandstone, etc., below which, to a depth of 2 feet, was a stratum of wood ashes, charcoal, and fragmentary pottery. Connecting the three points at which the undisturbed clay was encountered in the excavations at *A*, *B*, and *C*, the original surface of the site, before the periods of Indian and white occupancy, is clearly indicated. This is shown by a dotted line on figure 3.

The small branch, the bed of which is indicated on figure 3 between the excavations *A* and *C*, appears to have formed its present channel during comparatively recent years, otherwise the strata of ashes and pottery would not have been continuous on both sides. Many fire beds, masses of ashes, and accumulations of broken pottery, appear at different levels along the sides of the channel.

An excavation was made at the edge of the slightly elevated portion of the site, *D* (fig. 2), exposing a bank of ashes and charcoal, and two fire beds are distinctly visible at different levels. A fragment of pottery was met with near the lowest part of the excavation, but no traces of Indian occupancy were discovered in contact with the fire beds, it is therefore quite evident the ashes accumulated during the days the site was occupied by the whites. Several trenches were made a short distance from the right bank of the branch, directly east from the spring. These revealed accumulations of camp refuse, including ashes and charcoal, fragments of animal bones and pieces of broken pottery. This probably continued to the bank of the

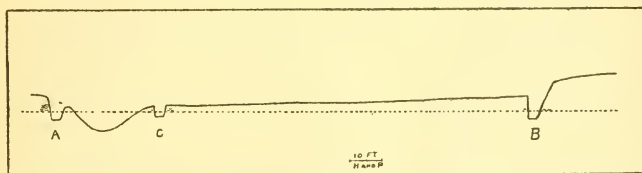


FIG. 3.—SECTION THROUGH A-B ON FIG. 2. THE DOTTED LINE INDICATES APPROXIMATELY THE ORIGINAL SURFACE. ABOVE THIS LINE IS THE ACCUMULATION OF ASHES, CHARCOAL, FRAGMENTS OF POTTERY, ETC.

Saline, and here was evidently a village or camp site. Just across the Saline was the site of the principal village; this will be mentioned later.

About 100 yards south of the salt spring the natural surface becomes more elevated and rises from a marshy tract on the west. This area is *B* on map (fig. 1). Several trenches dug along the northern extremity of the plateau revealed signs of Indian occupancy. At two points were numerous fragments of large earthenware vessels. These were not associated with refuse, as was those found nearer the spring, but appeared to have been used and abandoned here. They were probably broken, and some parts scattered, before the accumulation of the ashes and vegetable mold which now covers them to a depth of about 18 inches, was formed. Animal bones, a few chips of chert, and fragments of small pottery vessels, were intermingled in the mass surrounding and covering the parts of the large "pans." All fragments of large vessels discovered at this point were smooth on both the outer and inner surfaces—in

other words, no pieces of "cloth marked" pottery were found. Therefore, for reasons to be given on another page, it is evident this was a comparatively late Indian settlement, more recent than the camp between the salt spring and the Saline. A thorough examination of this site would probably prove of great interest.

The salt spring is on the flood plain of the Saline, or rather of the Mississippi, near the foot of the second terrace which here attains an elevation of about 30 feet. Before the space in the vicinity of the spring was modified by the accumulation of ashes, and before the wagon road was made, the surface sloped gradually from the brow of the higher land to the edge of the spring. Scattered over the surface of the sloping land are many fragments of small pottery vessels, some bearing traces of red pigment and others being pieces of a thin, black ware of superior quality. Numerous stone implements have been found here, and all signs point to this having been, at some former day, a favorite spot. No excavations were made here during the recent investigations, although the results would probably have been very interesting.

In making the road, less than 100 feet from the spring, the hillside was cut away to a depth of from 4 to 6 feet. Several fire beds were exposed by this cut, and may be traced on the side of the excavation. A curious pit was likewise cut through at a point almost due north of the spring. This is shown on plate 51. As will be seen, it has a circular bottom, and the excavation was probably circular in horizontal section. Its extreme width is about 4 feet 6 inches. It was filled with wood ashes, particles of charcoal, and pieces of large pottery vessels. Its sides could not be traced through the upper 18 inches of earth and mingled pottery, stones, and ashes, but this may be attributed to the use of the plow and the gradual accumulation of soil washed down from the higher ground. The sides and bottom of the pit did not show any evidence of the action of fire; there was no discoloration of the clay as would have resulted had this been a fire-place. This was probably a cache, or pit, where grain or other possessions of the tribe, were stored. The Kaskaskia, at their old village on the banks of the Illinois, followed this custom, and in describing their settlement as it appeared in 1679 it was written: "Every Cottage has two Appartments, wherein several Families might lodge, and under every one of them there is a Cave or Vault, wherein they preserve their *Indian-Corn*, of which we took a sufficient quantity, because we wanted Provisions." ¹

The camp or village sites already described are located on the left bank of the Saline, but the peninsula between this stream and the Mississippi, *C* on map (fig. 1), was evidently occupied by a com-

¹ Tonti, *An Account of Monsieur de la Salle's Last Expedition and Discoveries in North America*, London, 1698, p. 29.

paratively large settlement. This was a well-chosen position for a village, protected on three sides by water, and probably on the south by a line of palisades. Only during the greatest floods did the waters of the Mississippi cover the site, and probably at such times the nearby hills were occupied.

The site was partially examined, the principal excavation having been made at a point just west of the mound, about midway between the Saline and the old bed of the Mississippi. Here the surface was a few inches higher than that of the surrounding ground. At the present time the high, level portion of the peninsula is covered with old pecan trees, but it was plowed a few years ago, and in former years was cultivated every season, therefore the entire surface has been modified since an Indian village stood here, and consequently any slight inequalities of the surface are of no importance.

The principal excavation extended about 20 feet east and west, and a little less from north to south. The undisturbed clay was reached at an average depth of about 18 inches. This we may assume to have been the exposed surface when the site was first occupied. Two rather small fire beds were met with on the clay surface, and near one, resting upon the original surface, was an implement of the form usually described as a "notched hoe." This specimen measured a trifle more than $7\frac{1}{2}$ inches in length, being quite thin and having very narrow notches. The material was evidently derived from a quarry in Union County, Illinois. The stratum above the clay was composed of wood ashes and charcoal, vegetable mold and alluvium, the latter having been deposited during the floods of the Mississippi. Throughout the mass were many fragments of large pottery vessels, some animal bones, and a few mussel shells. Several broken bone implements were discovered, and also some chips of white and pink flint. The large "hoe" was the only perfect object found in the excavation. Many of the fragments of pottery bore the imprint of a well-made fabric. Smaller excavations made in other parts of the site discovered the original surface, but at a point about 100 yards southeast of the mound no signs of Indian occupancy were encountered.

From the mound to the mouth of the Saline the surface slopes gradually, but on the opposite side of the river the bank is very abrupt. Fragments of pottery and traces of fires are met with along the high bank, but all such remains which may have existed on the right bank have been covered or washed away by the action of the waters.

A single mound stands near the center of the village site. This, at the present time, is about 90 feet in diameter and less than 4 feet in height, but originally it must have been somewhat higher and of a lesser diameter; its change of form may be attributed to the action of

the plow and the trampling of cattle. The central part of the mound was examined, the excavation having been carried down to the undisturbed clay. It appears to have been formed of the surface soil, with a few particles of charcoal and a small quantity of ashes intermingled. The mass of camp refuse surrounding the mound had evidently accumulated after the construction of the mound, otherwise traces of it would have been encountered in the excavation. Three skeletons were found. The first to be met with was near the present surface of the mound, a few inches below the line of the plow. This was the skeleton of a male, extended, and with the head south. The skull was saved (Cat. No. 278698, U.S.N.M.). This burial presented one very unusual feature; the body had been placed in the grave, or rather on the surface, face down, and as a result the skull was entirely empty, and not a particle of earth had entered it. The body may have been wrapped at the time of burial, and accidentally deposited in this strange position. Just beneath the left shoulder, and extending a few inches beyond, were various small objects which rested upon one another, and which had probably been inclosed in a bag or pouch when they were placed in the grave with the body. These included: (1) A chipped celt about 7 inches in length, thin and well made, having a sharp cutting edge. (2) A pair of arrow-shaft rubbers with deep grooves, made of a very coarse-grained dark-brown sandstone, a material found in the western part of Ste. Genevieve County. (3) A hematite plummet. This had been broken, but even in this condition had been retained and used for some purpose. The fractured edges are smooth from contact with a softer material, and across the surface are several grooves which appear to have been worn by cords. (4) Three bone implements, all of which are broken. Two were pointed and one was flat, the latter having a gouge-shaped edge. (5) Small granite pebble. This is triangular in section; the three edges are much worn and bear evidence of having been struck against some hard substance. Other parts of the natural surface are smooth. (6) Three small pieces of gypsum; all are conical in shape, having been worked. The surfaces are greatly decomposed. All are shown in plate 52.

The skull of this skeleton was saved, and it has been identified by Doctor Hrdlička as being that of a male, probably between 35 and 40 years of age. One may, therefore, regard the different objects, enumerated above, as having been carried in a man's bag, together with substances of a perishable nature, all traces of which have disappeared. Of the various pieces the three gypsum specimens are the most unusual; these, as Mr. W. H. Holmes has remarked, "may have been charms or magic-working stones from the kit of a medicine man." The granite pebble, showing evidence of much use, may have served in striking a spark to produce fire. The purpose of the

hematite specimen is unknown, although it bears signs of use and was probably quite old when it was deposited in the grave. The other stone and bone objects do not present any unusual features.

A large quantity of flint chips were encountered on the same level and about 18 inches east of the preceding objects. They were scattered through a space less than 2 feet in diameter and were mingled with a large amount of charcoal. A tooth of a beaver was found in the same mass. A small black pottery vessel had been placed between the skeleton and the flint chips and some 6 or 8 inches higher, but its elevation had caused it to be hit by the plow and destroyed and only a few fragments remained.

Two skeletons were discovered resting upon the original surface of the ground. They were extended with the heads east. The feet were about under the first burial encountered. The remains were greatly decomposed and very soft. The ground was very damp, and the roots of a large pecan tree had reached the bones, and consequently their condition is no indication of great age. No objects of any sort were discovered with the burials.

The mound had, at some former day, been partially examined, and several pits and trenches had been opened at different points; but fortunately the central burials and the interesting group of objects had not been reached.

During the past few years innumerable stone implements, for the most part of ordinary forms and materials, have been found on the sites near the salt spring. These have been revealed by the plow, but are now becoming quite scarce. Undoubtedly these represent the work of the last occupants of the area, and were left scattered over the surface of the camps or villages. Probably very few entire objects of stone, bone, or shell are to be found beneath the surface in the mass of ashes and mold forming the stratum above the undisturbed clay. Any such specimens were lost by their owners and are, of course, few in number, but broken pieces are plentiful. Large "salt pans" may be hidden by the accumulated ashes and refuse, to be discovered, perchance, at some future time. Fragments of smaller vessels occur in quantities both on and below the surface. These were the utensils daily used in the wigwams, and were evidently similar to pieces placed in the stone graves.

Many large spades, made of the cherts from the Union County, Illinois, quarries, have been found on the surface of the high land beyond the village sites. Here were evidently the cornfields and gardens of the settlement, and judging from the large number of such objects found, and their distribution over a comparatively wide area, we are led to the belief that many acres were cultivated.

Very few ornaments of stone or shell have been discovered on the sites, and they appear to have been equally scarce in the stone graves.

Three shell beads were found near the spring, but nothing of the kind was met with in any of the excavations.

Shells of the river mussel were used as spoons; a fragment of one was obtained near the spring.

Pipes are seldom found. A small carving in limestone, representing a human head, which was found in the cultivated field across the road from the salt spring, is probably a part of a tobacco pipe (Cat. No. 278688, U.S.N.M.). (See B and C on pl. 53.) Objects of hematite have, from time to time, been found on the surface. Small chipped flints have been very plentiful.

The large number of specimens found in this section during the past few years have gone to enrich private collections, or have been acquired by dealers. Unfortunately no museum possesses a representative collection from the area circumjacent to the salt spring.

STONE GRAVES.

Stone graves existed in large numbers in the vicinity of the Saline, and every elevated point appears to have been occupied by a group. But at this late day it is quite difficult to discover any remaining in an undisturbed condition. The plow, and the seekers of buried treasure, are responsible for the destruction of a great majority of the ancient burials.

Many graves have, from time to time, come to light along the brow of the elevated land just across the present road from the salt spring. During the present investigation several were discovered on the summit of this ridge at a point just above the approach to the wagon bridge spanning the Saline. These, however, were entirely empty, and although the stones forming the sides, ends, and bottoms remained in place, not a vestige of bone was met with. The graves were of the ordinary form and the largest measured upward of 6 feet in length.

Several hundred yards below the mouth of the Saline, and midway between this stream and the former bed of the Mississippi, the highland terminates in an abrupt point which rises some 50 feet above the flood plain of the streams. The summit of this point is occupied by a small mound; of this we shall speak later. A single stone grave was encountered at the foot of the mound, on the west side. This was carefully examined, but not a trace of bone was found. It extended from north to south, and measured 4 feet 6 inches in length. One unusually large slab of limestone, the length of the grave, served as the eastern wall.

Four graves, undisturbed with the exception of the top stones having been removed by the plow, were discovered on the brow of the ridge about 50 yards south of the small mound previously mentioned. But for want of time it was not possible to determine the

extent of the cemetery of which these graves constituted a part; however, it would not be surprising to find it extending over a comparatively wide area. A plan of the four graves is shown in figure 4, and they may be described as follows:

1. This burial presented some very interesting and unusual features. The pieces of limestone used in forming the walls and bottom were rather smaller than were often employed. The extreme length was just 6 feet, and the width at the widest point 15 inches. This was divided into two compartments, the larger being 4 feet 6 inches in length. In this were the bones of a single skeleton, disarticulated before burial. Near the skull lay a small earthen vessel (Cat. No. 278697, U.S.N.M.), which was saved. The smaller compartment was occupied solely by a skull, facing upward, and resting upon the stone which formed the bottom of the grave. It was quite evident that both sections were constructed at the same time, as

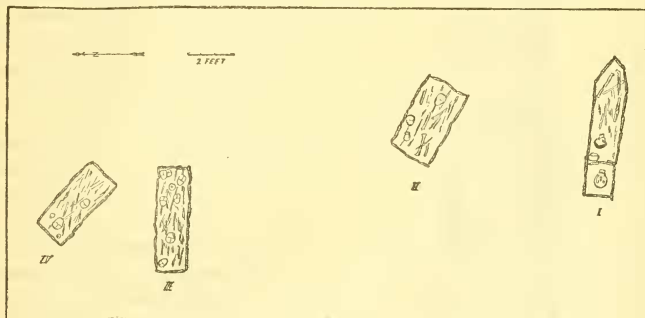


FIG. 4.—GRAVES SOUTH OF VILLAGE SITE. D ON FIG. 1. GRAVE I IS SHOWN ON PLATE 54 AND FIG. 5.

stones on the bottom extended on both sides of the partition, and likewise the stone on the north wall. Another curious feature of this grave was the converging of the north and south walls to complete the inclosure at the eastern end. Unfortunately the cover stones had been removed by the plow, and the remains were in a badly decayed and crushed condition, and consequently were not removed. (Shown on pl. 54 and fig. 5.)

2. Length, 3 feet 9 inches; width, 2 feet. Stones at sides, ends, and bottom. Contained the disarticulated bones of two skeletons. The skull resting against the north wall was saved (Cat. No. 278699, U.S.N.M.). Near this skull were fragments of a small earthen jar.

3. Length, 5 feet; width, about 18 inches. Stones forming the sides, ends, and bottom remained in place. As indicated on the plan, this grave contained seven skulls and a large number of separate bones, but all were greatly decomposed and could not be saved.

Near the eastern end was a small pottery vessel (Cat. No. 278696, U.S.N.M.), which was preserved.

4. Length, 3 feet 8 inches; width, 1 foot 8 inches. Stones on the sides, ends, and bottom. Contained two skulls and numerous other bones. Fragments of four small pottery vessels were met with; two of these had evidently been colored red. Nothing in this grave was saved.

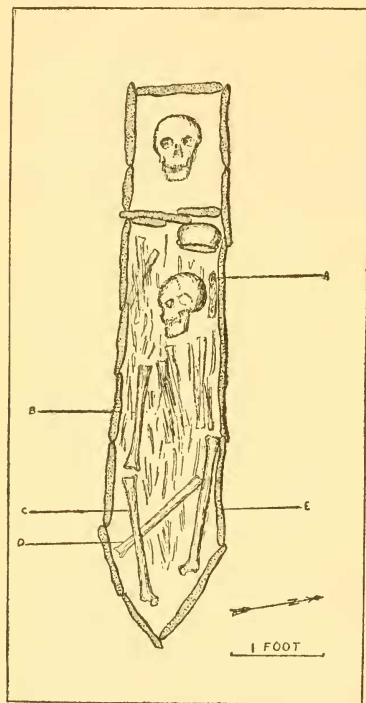


FIG. 5.—GRAVE I ON HIGH POINT SOUTH OF VILLAGE SITE.
SEE ALSO PLATE 54.

Although so few graves were examined, it is remarkable that all should have contained disarticulated skeletons. However, graves have been discovered in the valley of the Saline in which the skeletons remained entire and extended, showing conclusively that at the time of burial the bones were articulated, and that the flesh had not been removed.

Looking eastward from the site of the graves just described, across the former bed of the Mississippi and the lowland between it and the Kaskaskia, the field of vision is bounded by the line of bluffs bordering the left bank of the latter stream. Along this highland are various groups of stone graves similar to those near the Saline. Similar in construction, although the great majority contain entire skeletons. It

is quite evident that many, and probably all, were constructed by the Illinois tribes found occupying the area when it was first reached by the French colonists. Some appear to have been made within the past hundred years; this is certainly true of a group near the village of Prairie du Rocher, of which it has been written: "Mrs. Morude, an old Belgian lady, who lives here, informed Mr. Middleton that when they were grading for the foundation of their house she saw skulls with the hair still hanging to them taken from

these graves. It is therefore more than probable, and, in fact, is generally understood by the old settlers of this section, who derived the information from their parents, that these are the graves of the Kaskaskia and other Indians who resided here when this part of Illinois began to be settled by the whites." ¹ In a direct line Prairie du Rocher is less than 15 miles distant from the mouth of the Saline.

During the work in the vicinity of Kimmswick and other parts of Jefferson County some years ago, 16 distinct groups of stone graves were examined. A most interesting group was discovered immediately north of and adjoining the important village site near the spring, about 1½ miles west of Kimmswick. This group included 22 graves, of which number, 8 contained extended skeletons. Ten graves contained from 1 to 3 skulls each, together with various bones. One contained 4 radii and 4 ulnæ and also 8 finely worked bone implements and a small perforated disk of wood, discolored by and showing traces of a thin sheet of copper. A few bones were found in another grave, and in the remaining two all traces of the burial had disappeared. Six graves of this group, three of which contained small extended skeletons, were lined with fragments of large earthenware vessels, smooth on both surfaces, and which, when entire, must have measured from 20 to 30 or more inches in diameter. Nothing was met with to suggest the possibility of one form of burial being older than the other; all were probably of approximately the same age, differing only by a few years. Several burials found here were similar to those discovered near the mouth of the Saline. Many graves were examined in the valley of Big River, in the vicinity of Morse Mill. In many cases all traces of the burials had disappeared, but in every grave where bones were met with the skeletons had been articulated at the time of interment. All graves were stone lined, and few groups consisted of more than 10 or 12. These small groups evidently indicate the sites of several wigwams, as signs of an encampment were often discernible. Nothing was met with in any graves of the small groups indicating the age of the burials.

In grave IV, below the mouth of the Saline, 4 small earthen bowls were encountered. All were in a fragmentary, disintegrated condition, and unfortunately could not be removed. Two pieces were small bowls, about 4 inches in diameter and a little less in depth. They were very thin and fragile, and were composed solely of clay, neither sand nor crushed shell having been used as an admixture. They differed materially from all vessels constructed for practical purposes. Several similar specimens were recovered from the graves near Morse Mill, and 10 or more were found associated with the

¹ Thomas, Cyrus, Report on the Mound Explorations of the Bureau of Ethnology, in the Twelfth Annual Report, p. 136.

burials in the cemetery near Kimmswick, previously mentioned. All examples, from the three localities, were of about the same size and form. For the reasons already stated these small vessels would have been of no use to the living, and we are therefore led to the belief they were made solely for use in connection with burial ceremonies. Finding examples of these small mortuary vessels at three distinct points, tends to prove the similarity of custom of the people by whom the stone graves were constructed.

The discovery of graves near Kimmswick, in which fragments of large pottery vessels had been used in the place of slabs of stone, suggested the possibility of these and other burials in the region having been made by the Shawnee. Similarly constructed graves have been met with in the vicinity of Nashville, Tennessee, and in other parts of the known Shawnee territory. The settlement of the Shawnee and Delaware on Apple Creek, some miles south of Ste. Genevieve, has already been mentioned, and it is not unlikely there were camping places between this and the village of the same tribes which was located a few miles south of the Missouri, a short distance northwest of St. Louis. "*Village a Robert, or Village du Marais des Liards*, is situated three or four miles west of St. Ferdinand [the present Florissant], and contains a few French families. It was formerly the residence of a part of the Delaware and Shawnee tribes of Indians." ¹

The two better preserved crania from Saline Creek are described hereunder.

Report on two crania from Saline Creek, Mo., collected by D. I. Bushnell, jr.

Of the skulls in question, one (Cat. No. 278698, U.S.N.M.) is that of a man of 35 or 40 years of age, while the other (Cat. No. 278699) is that of a young female not yet quite adult. Both specimens are normally developed and free from any deformation which would alter their form; nevertheless, the female presents a slight, but plainly perceptible, frontal flattening—probably an extension of the practice of such deformation from farther south. Both are of moderate size, but what is remarkable is that the cranial bones in both are unusually delicate, so that internal capacity, notwithstanding the moderate external dimensions, is fair, approximating about the average for both sexes in the Indian.

Both specimens are considerably damaged, which makes extended measurements and comparisons out of question, nevertheless their type is plainly discernible. The outline of the vault, when viewed from above, is in both cases handsomely elliptical. They were of medium height. In length and breadth they measure, respectively, in the case of the male, 17.3 and 13.9 cm., in the case of the female, 16.3 and 13.4 cm., which gives the cephalic indices of 80.4 for the male and 82.2 for the female. This type resembles more that of the more southern Choctaw, for instance, than the more long-headed and more strongly developed people of some other parts of Missouri. The weak development of the various ridges and muscular insertions on both specimens indicates that they belonged to individuals and probably a group of people of only moderate robustness and stature. Two or three specimens of much the same nature were found in the Fowke material.² ALEŠ HRDLÍČKA.

¹ Beck, Lewis C. A Gazetteer of the States of Illinois and Missouri. Albany, 1823, p. 334.

² See Report on Skeletal Material from Missouri Mounds, Collected by Mr. Gerard Fowke in 1906-7. Bulletin 37, Bur. Amer. Ethn., pp. 103-112, Washington, 1910.

MOUNDS.

Two mounds have already been mentioned on the preceding pages, one on the village site at the mouth of the Saline, the second on the high point, *D* on figure 1, just south of the site. The latter occupies a very prominent position, and from its summit the view is one of great beauty and interest. The old bed of the Mississippi, its course until a few years ago, is visible for miles in both directions. Eastward across the low, bottom lands are the bluffs beyond the Kaskaskia, locally called the "Okaw." The French settlement of Kaskaskia and the sites of the villages of the Kaskaskia may also be distinguished in the distance.

As the mound crowns a high natural point it is difficult to ascertain the exact dimensions of the artificial work. It is, undoubtedly, to some extent artificial, but an excavation made on the west side, and extending beyond the center, failed to reveal any evidence. The stone grave discovered at the foot of the mound evidently extended below the base. No traces of fire were met with in the single excavation, and neither ashes nor charcoal had been brought to light by the plow; consequently the mound, although occupying such a prominent position, had not been used as a signal station.

About 300 yards south of this point, on the edge of the plateau, is another mound. Its surface has been plowed for many years, and as a result the work is reduced in height and spread. Like the preceding, it would be difficult to ascertain the dimensions of the artificial portion. The mound was partially examined some years ago, several pits were dug near the center, but nothing could be learned of the results and discoveries.

In the heavy timber, about 1 mile southward from the point and nearly midway between the Saline and the former course of the Mississippi, are three elongated mounds. These are approximately 75 feet in length and 12 feet in height. They are narrow and form a narrow ridge along the summit. No measurements were made.

Other mounds will be mentioned in the conclusion.

CAVES.

A short distance from the left bank of the Saline, in the limestone cliff, about one-half mile south of west of the salt spring, is a small cave of the greatest interest. It is scarcely 12 feet in width, while down the middle is a channel worn deep in the limestone. Water flowing through the cave falls into a narrow chasm, which extends nearly east and west. From the bottom of the channel to the top of the cavity is little more than 4 feet, but it is very irregular. The rock surface on both sides of the channel is quite level and on this

surface at the present time may be traced 13 petroglyphs, all of which are reproduced in figure 6, their relative positions being indicated on the plan (fig. 7). These include four bird forms, one hand, one small human footprint, six circles, and one small figure probably intended to represent the footprint of a large bird. Other figures were formerly to be seen on the eastern side of the channel, but they were removed many years ago and taken to St. Louis. It is known that two of the carvings represented human footprints. They were near the bird figure, on the edge of the channel, and a large block of stone was cut away, as is indicated by the dotted line.

Water to a depth of an inch or more is flowing down the channel at all times, but a rainfall of not to exceed one-quarter inch in several hours will cause the channel to overflow, and the grit carried down by the water scours the surface of the limestone. This readily explains the faintness of the petroglyphs at the present day. The high land a short distance from the cave is dotted with sink holes, and it is quite evident that one or more find an outlet through the cave, thus accounting for the great increase of the volume of water flowing through it after a slight rainfall in the vicinity.

Before mentioning the petroglyphs in detail, it will be of interest to compare an account of the cave written a little more than one-half century ago.

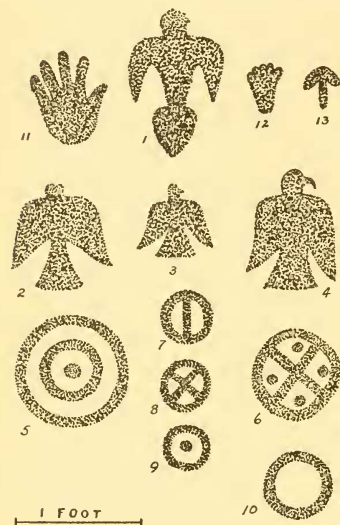


FIG. 6.—THIRTEEN PETROGLYPHS ON THE FLOOR OF THE CAVE. THEIR RELATIVE POSITIONS ARE INDICATED ON THE PLAN OF THE CAVE, FIG. 7.

At a meeting of the American Ethnological Society, held in New York City during the month of January, 1861, "Mr. Squier read extracts from the *Ste. Genevieve County Plaindealer* (Mo.) of a recent date. * * * Higher up on the Saline is a cavern in which is a spring of water flowing over a large flat or table rock. The water has worn a little channel in the rock, through which it flows. In this flat rock are round holes, similar to mortars, about the size of a tin cup. These places were no doubt made by the ancients, as a place to pound with stones their corn into hominy or meal. Entering the mouth of the cave a short distance, we discovered footprints of a pappoose just

commencing to walk. There are three distinct marks. The child was walking, and the first step was with its right foot, the next with its left, then again came the right. There is near by a very large footprint of a man. Turkey tracks and several other very singular

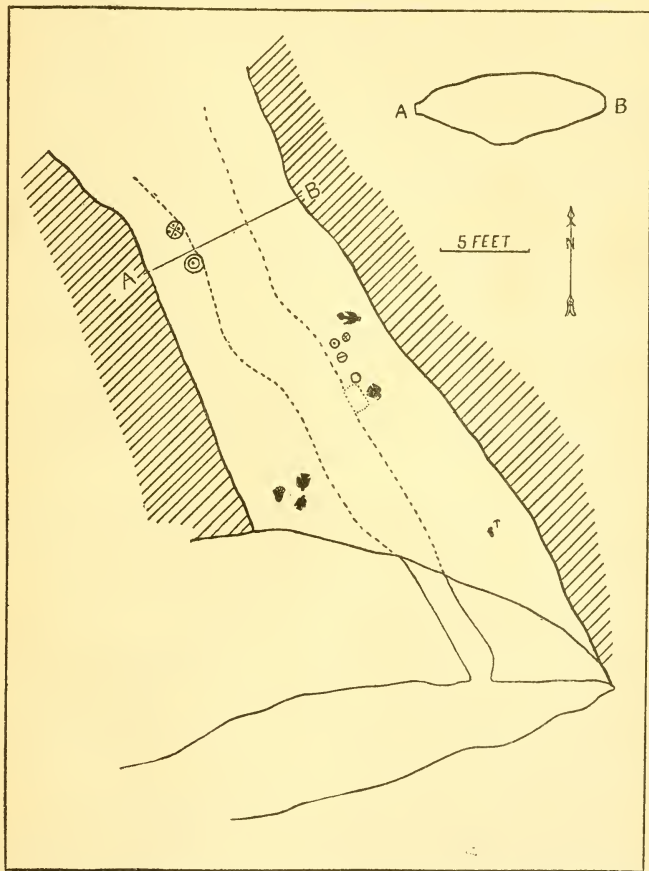


FIG. 7.—PLAN OF THE CAVE SHOWING THE PETROGLYPHS. THE DOTTED LINES INDICATE THE CHANNEL WORN IN THE FLOOR OF THE CAVE. THIS CHANNEL CONTINUES OUTSIDE THE CAVE AND CONNECTS WITH A NARROW CHASM EXTENDING EAST AND WEST.

things can be seen very distinctly. There is also the outline of an eagle cut into the rock. The work is neatly executed, and appears to have been done ages ago.”¹

¹ Bulletin of the American Ethnological Society, vol. 1, New York, 1861, pp. 49-50.

The "round holes, similar to mortars," mentioned in the preceding account, exist as described, but their origin may be attributed to the dripping of water from the top of the cave, rather than the work of man. The figures cut on this limestone surface have been met with in other parts of the Mississippi Valley, some being represented in thin copper, others serving as decorations on earthenware vessels.

1. A bird, showing the wings, body, and tail. Unfortunately the head can no longer be traced. The expanded tail is the most interesting feature of this figure, and this at once suggests the copper pendant recovered from a site in Cross County, Arkansas.¹ The pendant is a most unusual example of aboriginal art. It represents a bird highly conventionalized. The wings, body, tail, and claws are clearly shown. The head is crested and a small perforation represents the eye. The expanded tail is so similar to this peculiar feature of the petroglyph that little doubt remains that both figures were intended to represent the same bird. This may have been the large crested woodpecker, *Ceophloeus pileatus*. And in turn this suggests the gold object representing the head of a woodpecker which was discovered by Rau in a mound in Manatee County, Florida.

2, 3, and 4. Birds. The latter may be the "eagle cut into the rock," of the earlier description. The curved beak certainly resembles that of the eagle. In some respects this carving is similar to the figure in sheet copper found in a mound near Peoria, Illinois, figured by Thomas.²

5, 6, 7, 8, 9, and 10. Probably all have been found either alone or in combination with other figures or designs, on earthenware vessels recovered from mounds in the central portion of the Mississippi Valley. These are usually regarded as being cosmic symbols.

11. Representing the imprint of the left hand.

12. Representing the impression of a small human foot. As will be seen on the plan of the cave, this is near the opening, on the east side. It is the least distinct of the petroglyphs. This was probably one of the figures referred to in the earlier account, one of the "foot-prints of a pappoose just commencing to walk." Similar carvings have been found in many parts of the country.³

13. This may have been intended to represent the track or footprint of some large bird, evidently one of the "turkey tracks."

Contrary to the belief of the writer of the article in the *Plainedealer*, the petroglyphs must necessarily be of comparatively recent origin, otherwise they would have been more nearly obliterated by the

¹ Moore, Clarence B., *Antiquities of the St. Francis, White, and Black Rivers, Arkansas*, in *Journ. Acad. Nat. Sci. of Phila.*, 1910, pl. 10, p. 283.

² Thomas, Cyrus, *Report on the Mound Explorations of the Bureau of Ethnology*, in *Twelfth Rep. Bur. Amer. Ethn.*, p. 309.

³ Bushnell, D. I., jr., *Petroglyphs Representing the Imprint of the Human Foot*, in *Amer. Anthr.*, vol. 15, pp. 8-15.

action of flowing water carrying a large amount of sand and soil. Persons who have seen the carvings at different times during the past 30 years say they are becoming less and less distinct, and that formerly the figures were more clearly defined than now. If such perceptible changes have occurred within so short a time, we must not regard the work as being very ancient, and probably two centuries would be a fair estimate of their age.

In speaking of the six circular figures, Dr. Walter Hough has suggested the possibility of their having been copied from shields—in other words, being heraldic symbols. The theory is plausible and would be equally applicable to all the petroglyphs in the cave. It would, therefore, be permissible to attribute their origin and presence in the cave to individuals who had such designs on their shields, and whose right it was to use the symbols. The carvings may have been left as records of visits made to the spring; this is suggested by the following passage, which, however, refers to a far western tribe:

“Mr. G. K. Gilbert discovered etchings at Oakley Spring, eastern Arizona, in 1878, relative to which he remarks that an Oraibi chief explained them to him and said that the ‘Mokis make excursions to a locality in the canyon of the Colorado Chiquito to get salt. On their return they stop at Oakley Spring and each Indian makes a picture on the rock. Each Indian draws his crest or totem, the symbol of his gens (?). He draws it once, and once only, at each visit.’”¹ The figures are described as having been made “by pounding with a hard point,” although some were “scratched on.” While some were quite fresh and of recent origin, others were old and weatherworn.

Caves are numerous throughout the southern part of Missouri, and scores are met with in the limestone bluffs along the Ozark streams and in the region eastward to the Mississippi. These, with few exceptions, bear evidence of long or frequent occupancy by the Indians, but I am unable to learn of any in which petroglyphs occur, and consequently the small cavern near the Saline is quite distinct from the others.

Other caves were visited in the vicinity of Ste. Genevieve. “Gillian’s Cave” is several hundred yards distant from the left bank of the River aux Vases, and in a direct line about 3 miles northwest of the salt spring near the mouth of the Saline. The cave proper is only a few feet in height, and through it flows a small stream; it is of no special interest. Just above the cave the limestone formation forms a natural arch; the opening is about 70 feet in length, and the distance between the walls about one-half as great. The space beneath

¹ Mallery, Garrick, *Pictographs of the North American Indians*, in Fourth Rep. Bur. Amer. Ethn., p. 29.

the arch was partially examined, and a few arrowheads and chips of flint were found together with some animal bones intermingled in a mass of wood ashes and charcoal. At one point the mass of ashes was some 18 inches in thickness.

"Saltpeter Cave" is a large cavity near the left bank of Little Saline Creek, about 12 miles southwest of Ste. Genevieve. No evidence of Indian occupancy was met with. Various caves are said to exist near the Establishment Creek, some miles north of Ste. Genevieve, but they were not visited.

THE "SALT PANS."

The fragments of large pottery vessels met with in vast quantities in the vicinity of the salt spring, and on the village site just below the mouth of the Saline, represent two distinct types of "pans." The first, and probably the more numerous, show the impression of woven or braided fiber or hair on the outer surface, the inner surface being smooth. In the second variety both the outer and inner surfaces are smooth. Careful search was made in all excavations to ascertain, if possible, whether the two forms occurred in distinct strata in the masses of ashes, burnt stone, etc., but at no point were such conditions met with. As has been mentioned in the description of the area immediately south of the spring, large "smooth" vessels were found here, and no pieces of "cloth marked" pottery were found in the excavation. This conforms with the evidence gathered at the site near Kimmswick. There on the high plateau above the spring, the site of the settlement or camps, not a single example of "cloth marked" ware was discovered in the excavation, which covered about one-third acre. Four large vessels, ranging from 21 to 32 inches in diameter, were discovered, in addition to vast quantities of fragments of similar vessels; but all were smooth. Similar fragments had been used in lining graves in a near by group. At the foot of the elevated ground, near the bank of a small creek, was a spring of salt water. An excavation made near the spring reached the undisturbed clay at a depth of about 3 feet. Resting upon the clay was a stratum, some 18 inches in thickness, composed of fragments of large pottery vessels, fresh-water shells, animal bones, ashes, and charcoal. Above this was a deposit of alluvium. Of the large number of fragments of vessels met with in this excavation all, without exception, bore the imprint of a woven or braided fiber. On the surface of the ground near the spring were a few pieces of smooth ware, similar to the many examples discovered on the plateau. Here we have conclusive evidence that the two varieties of vessels were made and used at different periods, also that of the two the "cloth marked" is the older.

Among the numerous pieces of fabric marked pottery found near the Saline were some showing the imprint of unusually fine and well-

made materials. A remarkable example is reproduced in plate 55 *c*. The threads forming this piece were probably spun of the wool of the buffalo, an art practiced by various tribes,¹ and it is evident the work of the women of the Kaskaskia was not surpassed by any.

During the autumn of 1721, some 18 years after the removal of the Kaskaskia from their villages on the bank of the Illinois, Pere de Charlevoix reached their new towns near the mouth of the Kaskaskia, on the eastern side of the Mississippi, a short distance from the Saline. He was impressed with the skill of the women, and wrote: "Their women are very neat-handed and industrious. They spin the wool of the buffalo, which they make as fine as that of the English sheep; nay sometimes it might even be mistaken for silk. Of this they manufacture stuffs which are dyed black, yellow, or a deep red. Of these stuffs they make robes which they sew with thread made of the sinews of the roe-buck."² The piece of fabric which was impressed on the fragment of pottery already mentioned would be worthy of this description. The peculiar weave represented by this fragment has been met with in other parts of the Mississippi Valley and has been fully described.³ Other examples were discovered near the Saline in which the warp threads were as much as 1 inch apart; the threads were tightly twisted and the work neatly executed. Figure 8 represents a fabric impressed upon a small piece of pottery found near the spring. The fragment is very small and the entire impression is shown exact size. This is of special interest, as it shows two designs on the same piece of cloth. For the sake of comparison a section of a buffalo hair bag in the Pitt-Rivers Museum, Oxford, is shown in plate 56 *a*, while *b* represents a cloth derived from a fragment of earthenware from the Saline. It is quite evident the impression on *b* was made by a fabric similar to *a*. Both are enlarged one-half.

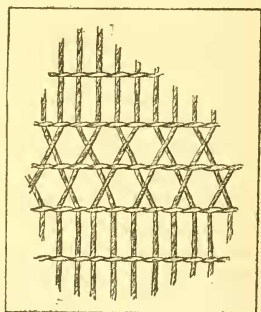


FIG. 8—IMPRINT ON A FRAGMENT OF POTTERY. EXACT SIZE.

An unusually interesting example is reproduced in plate 57 *a*. This shows two pieces of fabric neatly joined and impressed upon the surface of a large vessel. The specimen was probably not less than 30 inches in diameter. The fragment, which is a portion of

¹ Bushnell, D. I., jr., *The Various Uses of Buffalo Hair by the North American Indians*, in *Amer. Anthr.*, vol. 11, p. 401.

² de Charlevoix, *Journal of a Voyage to North America*, London, 1761, vol. 2, p. 222.

³ Holmes, W. H., (A) *Prehistoric Textile Fabrics . . . derived from Impressions on Pottery*, in *Third Ann. Rep. Bur. Ethn.*, pp. 393-425. (B) *Prehistoric Textile Art of the Eastern United States*, in *Thirteenth Ann. Rep. Bur. Ethn.*, pp. 9-46.

the rim and extending down about 5 inches, is not more than one-half inch in thickness, although the rim itself is quite heavy and flaring. The coarser fabric extends from the rim downward, and evidently formed a band about 3 inches in width around the upper portion of the vessel. Unfortunately only a small part of the impression of the finer cloth remains, but it is clearly defined. The neatness with which the two pieces of fabric had been joined, the position of the border, and the clearness of the impressions of the fabrics on the outer surface of the vessel suggest the attempt on the part of the maker to make use of the impression as a means of decorating the large "salt pan."

Many fragments of large vessels found in the vicinity of the salt spring bear the imprint of a very coarse material. Examples are shown in plate 56, *a* and *b*. It has been a question whether this form of impression should be attributed to a piece of flat, woven matting, or to a shallow basket which had been used in forming the vessel. If a matting, it would be difficult to understand how it could be placed so as to conform with the convex surface of a vessel. For this and another reason about to be stated, it is evident that *b*, and possibly *a*, represents the imprint of the inner surface of a coarsely woven basket. In *b* the woof elements form distinct ridges a little less than 1 inch apart. If a surface of this nature had been covered with a thin fabric and impressed upon a mass of soft clay, the ridges of the woof would be clearly shown. This effect is produced in *c* of the same plate. Here is the imprint of a very fine fabric, but on the surface of the fragment may be traced four parallel ridges, corresponding with the woof elements in *b*. The natural conclusion is that a surface similar to that of *b* had been covered with the cloth, the imprint of which is so distinctly visible; the latter being thin and yielding had followed the rough, irregular surface beneath it.

A very interesting specimen is reproduced in plate 57 *b*. This small fragment bears the imprint of two pieces of cloth, one of which overlaps the other. The third example, *c*, on this plate shows the imprint of three distinct materials on the same piece of pottery. This is a portion of a large "salt pan," being a section of the rim. In the center, clearly defined, is the impression of a coarse material. On the right is the imprint of a fabric resembling plate 56 *b*. On the left is the impression of coarser fabric. Both fabrics had been placed over the surface of coarsely woven matting, or, more likely, the inner surface of a basket, an exposed section of which is visible between them.

This apparent use of baskets in the shaping of the large "salt pans" tends to verify a statement made many years ago: "Another method practised by them is to coat the inner surface of baskets made of rushes or willows with clay to any required thickness, and when dry,

to burn them. * * * In this way they construct large, handsome, and tolerably durable ware, though latterly, with such tribes as have much intercourse with the whites, it is not much used, because of the substitution of cast-iron ware in its stead.”¹ This was written to apply to the region west of the Mississippi, and more especially to Missouri, as the author had been for many years a captive among the Osage. He might well have had in mind the area about the mouth of the Saline.

The large vessels were made of clay, to which a quantity of crushed shell had been added. The vessels had been burned, but, strange as it may appear, heat sufficient to burn the vessel was not intense enough to calcine the particles of shell, and many pieces retain their luster.

The use of baskets in this connection would not have resulted in their destruction and loss. The wet clay, spread over the inner or concave surface, would within a short time have dried and contracted sufficiently to have permitted the removal of the vessel without injury to it or the basket mold.

Several fragments of large pans, found near the spring, bore the impression of a coarse, loosely made net. An example is given in plate 56. This particular vessel had evidently been formed in a mold having a smooth surface, otherwise the spaces between the cords would have been irregular.

The use of these large vessels was not restricted to the area immediately surrounding the salt spring, where they had evidently been utilized as evaporating pans in the manufacture of salt. On the village site across the Saline fragments of similar vessels were met with. Here were examples of both the smooth and fabric marked varieties. These undoubtedly served as cooking utensils, in which food was prepared by boiling, the water being heated by placing hot stones in the vessel.

ADDITIONAL SITES.

The sites described on the preceding pages are in the immediate vicinity of the mouth of the Saline; the investigations were necessarily restricted to this area, but many other spots within a few miles of the salt spring bear evidence of Indian occupancy.

Following the course of the Saline to a point about 3 miles above its mouth a place known as the “rock cut” is reached. At the lower end of the “cut” is a small salt spring. It is in the low ground a few feet from the right bank of the river. Several fragments of large “cloth-marked” pottery vessels were found in small channel through which the water flows from the spring to the river. The

¹ Hunter, John D., *Manners and Customs of Several Indian Tribes Located West of the Mississippi*, Philadelphia, 1823, p. 297.

salt water had been utilized by the Indians, but to what extent was not ascertained. Stone graves have been met with on the near by hills, which, of course, indicate the presence of a village or camp. This may have been a small, outlying camp, belonging to the more extensive settlement near the mouth of the river. For quite a distance around the spring the ground is covered with a heavy growth of timber, and the graves are in a cedar thicket, consequently an investigation of the site would entail much labor. Higher up the Saline, on both banks, are other salt springs, but they were not visited.

A large village probably stood near the mouth of the River aux Vases, on the north or left bank. This would have been about 2 miles up the Mississippi from the mouth of the Saline. The land at this point is rather low and has often been overflowed by the Mississippi, and as a result all traces of a settlement are lost. The land rises as it recedes from the river, and on the slope are traces of many stone graves. These were quite near the surface, and many have been struck and destroyed by the plow. Various objects of stone and shell are said to have been found on this part of the site. These had probably been deposited in the graves. Along the crest of the bluff, immediately beyond the graves, are several small mounds. Mounds and stone graves have been encountered along the bluff extending for miles northward from this site.

The most important group of mounds in this section is located a few miles south of the town of Ste. Genevieve, in the "Big Field." The group is on the level bottom land, a short distance from the foot of the limestone bluff, and includes one large and seven small mounds. The large central mound is of oval form and rises about 15 feet above the plain. The seven low, circular mounds surround the large one. All have been cultivated for many years, and the attempt has been made to plow in such a manner as to cause them to spread and wash down more rapidly. No measurements were made. Various objects are said to have been discovered on the summit of the large mound a few years ago just after the spring plowing, but no definite information could be gained respecting them, nor could they be traced.

The bluffs extending southward from the mouth of the Saline are likewise occupied by groups of stone graves and low mounds. A small creek enters the old bed of the Mississippi about 2 miles below the Saline; this forms the boundary between Perry and Ste. Genevieve Counties. Just south of the creek the bluff rises abruptly and is visible from miles about. The highest point is capped by a conical mound, and on the slope below are many stone graves.

The many small groups of graves discovered in the eastern part of Missouri indicate a scattered population. The large cemeteries such as existed in the country south of the Ohio are unknown here.

Game was abundant and undoubtedly served as the principal food of the people, but by separating into small groups the hunters could more easily secure the necessary supply. This condition undoubtedly explains the occurrence of the many widely separated camps, as indicated by the small groups of graves. However, such would not have been possible in a country surrounded by enemies. There is little doubt but that the remains of camps and cemeteries met with in this section may be attributed to the Illinois tribes. Their nearest neighbors on the west were the Osage, whose chief towns were many miles away. The Kaskaskia and Osage were friends. Charlevoix¹ wrote in 1721:

"The *Osages*, a pretty numerous nation settled on the banks of the river bearing their own name, which runs into the Missouri about forty leagues from its confluence with the Mississippi, depute some of their people once or twice every year to sing the calumet among the Kaskasquias, and they are now actually here at present."

This explains the possibility of having small, scattered settlements, and undoubtedly many were occupied during comparatively recent days.

EXPLANATION OF PLATES.

PLATE 50.

The northern section of the map of the "Course of the Mississippi . . . in the latter end of the year 1765. By Lieut. Ross . . . London . . . 1775." The position of the village of Ste. Genevieve, as it was before the year 1782, is indicated by the name "Misere." During the year 1782 the settlement was moved to the higher ground some 2 miles westward, above the flood plain of the Mississippi.

PLATE 51.

Section of the lower portion of a cache or pit which was probably used for the storage of grain. It is exposed on the side of the road immediately north of the salt spring. Width about 4 feet 6 inches.

PLATE 52.

Eleven objects, discovered beneath the left shoulder of the upper skeleton, near the center of the mound on the village site at the mouth of the Saline. Upper row, beginning at the left, 3 pieces of gypsum, 1 granite pebble. Second row, hematite plummet; 3 bone implements. Bottom row, chipped celt, length $7\frac{1}{2}$ inches; pair of arrow-shaft rubbers.

PLATE 53.

A.—Scapula of an elk, probably hafted and used as a hoe. The flat surface is polished from use. Found on the high ground just south of the spring. (Cat. No. 278693, U.S.N.M.)

B and C.—Two views of a small carving in limestone, representing a human head. Probably a fragment of a tobacco pipe. Extreme height, 3 inches. (Cat. No. 278688, U.S.N.M.)

¹ Journal of a Voyage to North America, London, 1761, vol. 2, p. 224.

PLATE 54.

Photograph of the grave shown more clearly in figure 5. The camera was placed at the foot of the grave, looking almost due west. The smaller compartment, containing the single skull, is not visible.

PLATE 55.

Casts of fragments of pottery found near the large spring. The upper specimens (*a* and *b*) represent the inner surfaces of rather coarsely woven baskets. The lower example (*c*) shows basketry, similar to *b*, covered with a piece of cloth of remarkably fine texture.

All specimens are reproduced exact size.

PLATE 56.

a.—Detail of a bag, made of buffalo hair, now in the Pitt-Rivers Museum, Oxford, England. Enlarged one-half.

b.—Cast of a fragment of pottery from near the large spring at the mouth of the Saline. Enlarged one-half. Evidently the fragment *b* represents the imprint of a fabric similar to *a*.

c.—Cast of a fragment of pottery showing the impression of a very coarse, irregular net. Exact size.

PLATE 57.

Casts of fragments of pottery, all shown exact size.

a.—This bears the imprint of two pieces of cloth, neatly joined.

b.—Two pieces of cloth are represented. The piece on the left overlaps the example on the right.

c.—Three distinct materials may be traced on this fragment. On the left is a coarse cloth; on the right is a fabric similar to *b*, plate 56. Between these is an exposed surface suggesting *b*, plate 55.